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GENERAL NOTES :-

THE FOLLOWING NOTES SHALL APPLY TO ALL DRAWINGS UNLESS OTHERWISE NOTED OR INDICATED

1. ALL DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE RELEVANT SECTIONS OF THE ELECTRICAL SERVICES/SPECIFICATION IN THE TENDER DOCUMENT.

2. ALL THE DIMENSIONS SHOWN ON DRAWINGS ARE METRIC (1 IN mm).

3. THE INTENT OF THESE DRAWINGS IS TO GUIDE THE CONTRACTOR IN THE SCHEME OF WORKS. CONTRACTOR SHALL MAKE PROPER SHOP DRAWINGS FOR THE APPROVAL OF THE ENGINEER AND SUBMIT IT BEFORE THE WORK COMMENCES AT SITE.

4. ALL ELECTRICAL WORKS SHALL BE EXECUTED IN STRICT ACCORDANCE WITH THE PROJECT SPECIFICATIONS.

5. THE ROUTING OF CABLES SHOWN ON DRAWINGS IS FOR GUIDANCE ONLY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CHECK, AT THE STAGE OF TENDER, THE RUNS OF ALL CABLES IN RELATION TO STRUCTURAL RESTRICTIONS SO THAT ALL MATERIALS SUCH AS CONDUITS AND THEIR ACCESSORIES ARE INCLUDED IN HIS PRICE.

6. ACTUAL LOCATIONS OF ALL OUTLETS MUST BE VERIFIED BY THE SITE ENGINEER BEFORE INSTALLATION COMMENCES.

7. ALL ELECTRICAL EQUIPMENT SHALL BE SUPPLIED BY AN APPROVED MANUFACTURER AND THE CONTRACTOR SHALL ENSURE THAT ALL EQUIPMENT ARE SUITABLE FOR THE PURPOSE FOR WHICH IT IS TO BE USED AND THAT IT IS FUNCTIONING PROPERLY AFTER INSTALLATION.

8. AS-BUILT DRAWINGS TOGETHER WITH EQUIPMENT TEST CERTIFICATES, MANUALS, AND INSTRUCTIONS TO USE, ALL IN THREE COPIES ARE TO BE SUBMITTED UPON COMPLETION OF WORKS.

9. COORDINATE WITH OTHER DISCIPLINES TO ACHIEVE THE MOST SUITABLE MOUNTING LOCATIONS IN ORDER TO AVOID ANY CONFLICT MAY OCCUR IN.

10. GENERALLY INDEX OF PROTECTION SHALL BE IP54 FOR ALL ELECTRICAL FITTINGS LOCATED IN WET AREAS OR OUTDOOR AREAS UNLESS OTHERWISE NOTED OR INDICATED.

11. THE DRAWINGS SHOW APPROXIMATE POSITIONS ONLY. THE EXACT POSITIONS SHALL BE DETERMINED ON SITE IN CONJUNCTION WITH COMPANY.

12. ALL CABLES SHALL BE COLOR CODED THROUGH THEIR ENTIRE LENGTHS AS TO THE PHASE WHICH THEY ARE CONNECTED.

13. ALL 13 AMP SOCKET OUTLET CIRCUITS IN 3 NOS AND MORE SHALL BE CONNECTED TO A RING CIRCUIT.

14. WHERE MULTI GANG LIGHTING SWITCHES ARE INDICATED TO BE ON DIFFERENT PHASES, A PHASE BARRIER OF 500 V AND A WARNING LABEL SHALL BE INCORPORATED WITHIN THE SWITCH BASE.

15. LIGHTING LUMINAIRES SPACING IS TO BE MADE TO SUIT POSITIONS IF ANY AND THEIR LOCATIONS SHALL BE AGREED WITH THE ARCHITECT'S INSTRUCTION.

16. DRAW WIRES SHALL BE LEFT IN ALL CONDUIT RUNS FOR OTHER SERVICES, THAT IS BETWEEN A/U/S/COUS AND THERMOSTATS ETC. AND THESE SHOULD BE IN ACCORDANCE WITH THE DRAWINGS.

17. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THE COMPLETE CO-ORDINATION OF ALL SERVICES.

18. ALL LAMPS AND LUMINAIRES SHALL BE SUPPLIED AND INSTALLED UNDER THIS CONTRACT AS PER LIGHT FITTING SPECIFICATION. FOR LOCATION OF EMERGENCY AND EXIT SIGNS REFER TO CIVIL DEFENCE DRAWINGS.

19. ALL HOLES THROUGH FIRE BARRIERS TO BE FILLED WITH SMOKE / FLAME PROOF FIRE BARRIERS.

20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING APPROVAL FOR THE DESIGN FROM THE RELEVANT LOCAL AUTHORITIES AND ALSO FOR THE CO-ORDINATION DURING CONSTRUCTION.

21. ELECTRICAL ACCESSORIES IN THE KITCHEN TO BE FULLY CO-ORDINATED WITH THE KITCHEN CABINET LAYOUT AND KITCHEN EQUIPMENT LAYOUT.

22. ALL SOCKET OUTLETS IN DAMP AREAS SHALL BE WEATHERPROOF AND PROTECTED WITH A 30mA SENSITIVITY RCD.

23. CONTRACTOR SHALL PROVIDE POWER POINT FOR THE VARIOUS LOW CURRENT SYSTEM AS PER SUPPLIER'S REQUIREMENT.

24. THE DRAWING SHOWS ONLY INDICATIVE LOCATION FOR THE VARIOUS POWER OUTLETS AND LIGHT FITTINGS. THE EXACT LOCATION SHALL BE DETERMINED IN COORDINATION WITH THE FINAL FALSE PLATTING LAYOUT, INTERIOR DECORATION, CEILING LAYOUT, KITCHEN EQUIPMENT AND IN ACCORDANCE TO COMPANY INSTRUCTIONS.

25. KWH METER SHALL BE ARRANGED IN A SUITABLE MANNER TO COMPANY AND ADO. APPROVAL.

26. ALL MCB DISTRIBUTION BOARDS FOR LIGHTING AND POWER SHALL BE PROVIDED WITH RCD OUTGOING WITH SENSITIVITY AS PER ADO. REQUIREMENT.

27. ALL ADOS, ACCESS/ MCB / RCDs / CONTACTORS / ELCBS ETC. SHALL BE CAPABLE OF CARRYING CURRENT INDICATED AT AN AMBIENT TEMPERATURE OF 50° C.

28. ALL EQUIPMENT MOTORS SHALL BE PROVIDED WITH LOCAL ISOLATING SWITCHES OR EMERGENCY LOCK OFF STOP BUTTON.

29. ALL CONDUCTIVE BUT NON CURRENT CARRYING CONDUCTORS SUCH AS WATER PRES. TRUNKING TRAYS, SHEET STEEL DUCT WORK ETC. SHALL BE BONDED TO MAIN EARTHING NETWORK USING 16/25 mm² ECC TERMINATED WITH COPPER LUGS.

30. UNDER FLOOR TRUNKING SYSTEM

- TYPE AND SIZE OF UNDER FLOOR TRUNKING SYSTEM INCLUDING SERVICE BOXES SHALL BE SUITABLE FOR THE SCORED DEPTH AVAILABLE AT THE AREA OF INSTALLATION.

- COVERS OF SERVICE BOXES SHALL HAVE THE COLOR AND RECESSED DEPTH MATCHING WITH THE TYPE AND FINISH OF FLOOR/CARPET/TILES AT THE LOCATION OF INSTALLATION.

- LOCATION OF THE VERTICAL ACCESS BOX AND VERTICAL RISERS SHOWN AT VARIOUS AREAS IS ONLY INDICATIVE. EXACT LOCATION OF THE SAME SHALL BE DETERMINED AT SITE IN CO-ORDINATION WITH ALL OTHER SERVICES AND TO AVOID ANY CONFLICT MAY OCCUR. THE CONTRACTOR SHALL ENSURE THAT IT SHALL BE HIDDEN FROM THE VIEW AND MERGE WITH THE SURROUNDING FINISH AND ARCHITECTURAL FEATURES.

CONTRACTOR SHALL ALLOW ADDITIONAL FLOOR JUNCTION BOXES FOR REROUTING THE UNDER FLOOR TRUNKING IN ORDER TO ACHIEVE THE SAME.

31. LIGHT FITTINGS MARKED WITH 'E' ON THE LIGHTING LAYOUT DRAWINGS SHALL HAVE ONE LAMP CONNECTED TO THE CENTRAL EMERGENCY LIGHTING SYSTEM IN A SWITCHED MAINTAINED MODE AND FOR WHICH THE SUPPLY OF THE RELATED BALLAST SHALL BE COORDINATED WITH THE CENTRAL EMERGENCY LIGHT SYSTEM SUPPLIER.

ALL THE ABOVE NOTES AND THOSE GIVEN ON ANY OTHER DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE ELECTRICAL SERVICES SPECIFICATION AND THE CONTRACT DRAWINGS DATED 15/03/2024.

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LEGEND:

SYMBOLS	DESCRIPTION
	UNDER VOLTAGE PROTECTION
	PHASE SEQUENCE PROTECTION
	INSTANTANEOUS OVER CURRENT PROTECTION
	TIME OVER CURRENT PROTECTION
	EARTH FAULT PROTECTION
	RESTRICTED EARTH FAULT RELAY
	OVER VOLTAGE PROTECTION
	TEMPERATURE TRIP RELAY (BUILT INTO TRANSFORMER)
	THREE PHASE LOAD BALANCE RELAY
	POWER FACTOR METER
	FREQUENCY METER
	AMMETER
	VOLTMETER
	POTENTIAL TRANSFORMER
	CURRENT TRANSFORMER
	TRANSFORMER (11/0.433KV DYN II) (RATING AS ON DRAWINGS)
	MAIN DISTRIBUTION BOARD
	SUB MAIN SWITCH BOARD
	MOTOR CONTROL CENTER IP54 OR AS SPECIFIED
	4 POLE WITHDRAWAL TYPE AIR CIRCUIT BREAKER (MOTORIZED TYPE) WITH SHUNT TRIP.
	4 POLE WITHDRAWAL TYPE MOLDED CASE CIRCUIT BREAKER
	4 POLE FIXED TYPE MOLDED CASE CIRCUIT BREAKER

EARTHING & LIGHTNING

LEGEND:

SYMBOLS	DESCRIPTION
	300mm DEEP 48mm Cu-ALLOYED STEEL ELECTRODE ENDED BY EARTH PIT AND TEST CLAMP POINT TYPICAL
	35mm COPPER TAPE HORIZONTAL AIR TERMINAL
	40mm COPPER TAPE VERTICAL AIR TERMINAL (HIGHER THAN MACHINES HEIGHT AS PER IS 8830:2020)
	75mm STANDARD SOFT DRAWING COPPER
	PURPOSE MADE CROSS CONNECTION CLAMP
	COPPER TAPE FIXING AT 1m INTERVALS
	EARTH BAR
	EARTHING BRANCH CONNECTION (COLD WELD)

LEGEND:

LIGHTING

TYPE	SYMBOLS	SHAPE	DESCRIPTION
F1			RECESSED MOUNTED INDIRECT LIGHTING FIXTURE WITH WHITE PAINTED STEEL WITH MICRO SLOTS, OPAL POLYCARBONATE DIFFUSER SHEET (BEHIND) AND CENTRALLY PLACED ALUMINUM 24x40W COMPACT FLUORESCENT LAMP IP20. DITTO BUT CONNECTED TO EMERGENCY CIRCUITS.
F2			DITTO BUT CONNECTED TO CENTRAL BATTERY SYSTEM
F3			RECESSED MOUNTED LIGHTING FIXTURE WITH WHITE PAINTED STEEL, WITH SPECULAR PRISMATIC DIFFUSER, 48W, FLUORESCENT LAMP IP20. DITTO BUT CONNECTED TO EMERGENCY CIRCUITS.
F4			WITH HARDENED EXPLOSION PROOF LUMINAIRE 2x36W FLUORESCENT LAMP, BODY MADE OF POLISHED STAINLESS STEEL, RESISTANT AGAINST OIL VAPOR, EFFECT OF CHEMICALS, AND CLEANING AGENTS, WITH HARDENED BREAK-PROOF SAFETY GLASS IP65 DITTO BUT CONNECTED TO EMERGENCY CIRCUITS.
F5			SURFACE MOUNTED LIGHTING FIXTURE WITH DIE CAST ALUMINUM BODY AND OPAL POLYCARBONATE DIFFUSER WITH 2x36W COMPACT FLUORESCENT LAMP IP65. CONNECTED TO CENTRAL BATTERY SYSTEM
F6			SURFACE MOUNTED LIGHTING FIXTURE WITH FIBER GLASS REINFORCED POLYESTER HOUSING WITH POLYCARBONATE PRISMATIC CLEAR COVER WITH 2x36W FLUORESCENT LAMP IP67. DITTO BUT CONNECTED TO EMERGENCY CIRCUITS.
F7			SAME AS F6 BUT WALL MOUNTED
F8			RECESSED MOUNTED DOWN LIGHT WITH 1x28W COMPACT FLUORESCENT LAMP AND REMOTE GEAR BOX WITH GALVANIZED STEEL BODY, SHOWN ALUMINUM WITH MATT ANODISED FINISH IP20. DITTO BUT CONNECTED TO CENTRAL BATTERY SYSTEM
F9			RECESSED MOUNTED DOWN LIGHT WITH DIE CAST ALUMINUM BODY DEEP DRAWN POLISHED SHEET STEEL CONTROL GEAR BOX WITH 1x28W COMPACT FLUORESCENT LAMP IP 20. DITTO BUT CONNECTED TO EMERGENCY CIRCUITS.
F10			RECESSED MOUNTED DOWN LIGHT WITH POLYESTER GEAR BOX, HIGH BRILLIANT PAINTED MEATLESS REFLECTOR WITH 1x28W COMPACT FLUORESCENT IP20. DITTO BUT CONNECTED TO EMERGENCY CIRCUITS.
F11			RECESSED MOUNTED DOWN LIGHT WITH POLYESTER GEAR BOX, HIGH BRILLIANT PAINTED MEATLESS REFLECTOR WITH 1x28W COMPACT FLUORESCENT IP20. DITTO BUT CONNECTED TO EMERGENCY CIRCUITS.
F12			WALL RECESSED STEP LIGHT WITH 1x28W FLUORESCENT LAMP IP54
F13			SURFACE MOUNTED BULK HEAD WITH DIE CAST ALUMINUM BODY AND OPAL POLYCARBONATE DIFFUSER OVAL SHAPE WITH 2x28W COMPACT FLUORESCENT LAMP IP 65.
F14			SINGLE SIZED ACRYLIC GLASS PANEL, EXIT SIGN, WITH 8W COMPACT FLUORESCENT LAMP, CEILING/WALL MOUNTED, IP20.
F15			SAME AS F14 BUT DOUBLE SIZED TYPE.
F16			LINEAR/FLEXO COVE LIGHT WITH LOW XENON RIGID LAMPS, IP20. COMPLETE WITH ALL ACCESSORIES, TRANSFORMERS, etc.
F17			SAME AS F13 BUT WITH 2x36 W
F18			DITTO BUT CONNECTED TO EMERGENCY CIRCUITS.
F19			DITTO BUT CONNECTED TO CENTRAL BATTERY SYSTEM
F20			TRANSPARENT DIFFUSER LUMINAIRE HOUSING MADE OF POLYCARBONATE INJECTION MOLDED DIFFUSER MADE OF POLYCARBONATE WITH FLUORESCENT LAMP 2x36 W, IP65 DITTO BUT CONNECTED TO EMERGENCY CIRCUITS.

LEGEND:

POWER.

TYPE	SYMBOLS	DESCRIPTION
S01		3 COMPARTMENT FLOOR FLUSH SERVICE BOX (250x250mm) SUITABLE FOR UNDER FLOOR TRUNKING SYSTEM WITH 2 No. 15A TWIN SWITCHED SOCKET OUTLETS AND AS PER SPECIAL SYSTEMS No. TWIN R45 OUTLETS
S02		15A 240V, 2P+E SWITCHED SOCKET OUTLET
S03		15A 240V, 2P+E SWITCHED SOCKET OUTLET
S04		15A 240V, 2P+E WEATHER PROOF SWITCHED SOCKET OUTLET
S05		16A 240V, 2P+E INDUSTRIAL TYPE SOCKET OUTLET
S06		32A 240V, 2P+E INDUSTRIAL TYPE SOCKET OUTLET
S07		SAME AS S03 BUT WITH DIFFERENT COLOR FED FROM UPS PANEL
S08		POWER OUTLET BOX INTEGRATED IN FLAME HOOD COMPARTMENT COMPLETE WITH MCB PANEL, EARTH LEAKAGE 30mA, 1 OUTLET TWIN SWITCHED 2P+E, 1 LIGHT AND AN EMERGENCY STOP SWITCH (REFER TO DETAILED DIAGRAM BY FURNITURE CONTRACTOR)
S09		POWER OUTLET BOX MOUNTED TO BENCH TABLE TOP SEPARATOR WALL 500mm HIGHER, 15A 240V, 2P+E SWITCHED SOCKET OUTLET, WITH 1 LIGHT AND AN EMERGENCY STOP SWITCH (REFER TO DETAILED DIAGRAM BY FURNITURE CONTRACTOR)
S10		POWER OUTLET BOX MOUNTED TO BENCH TABLE TOP SEPARATOR WALL 500mm HIGHER, 15A 240V, 2P+E SWITCHED SOCKET OUTLET, WITH 1 LIGHT AND AN EMERGENCY STOP SWITCH (REFER TO DETAILED DIAGRAM BY FURNITURE CONTRACTOR)
S11		20A 240V, 3P+E DOUBLE POLE SWITCH WITH NEON INDICATION
S12		15A 240V, 2P+E SWITCHED SOCKET OUTLET ABOVE FALSE CEILING FOR CCTV CAMERA
S13		15A 240V, 2P+E SWITCHED SOCKET OUTLET ABOVE FALSE CEILING FOR AUDIO VISUAL RACK
S14		15A 240V, 2P+E SWITCHED SOCKET OUTLET ABOVE FALSE CEILING FOR OVERHEAD PROJECTOR
S15		15A 240V, 2P+E SWITCHED SOCKET OUTLET ABOVE FALSE CEILING FOR MOTORIZED SCREEN
S16		FLOOR MOUNTED 2P+E SWITCHED SOCKET OUTLET 40A, 240V WITH SAFETY SHUTTERS IP54, FED FROM UPS
S17		DISTRIBUTION ASSEMBLIES WITH INCOMING MCB RATING AS FEEDING BREAKER -X1 NO. OUTGOING MCB 16A/3P, EACH FEEDING 16A 240V INDUSTRIAL SOCKET OUTLET -X3 NO. OUTGOING MCB 32A/3P, FEEDING 32A 415V INDUSTRIAL SOCKET OUTLETS
S18		DISTRIBUTION ASSEMBLIES WITH INCOMING MCB RATING AS FEEDING BREAKER -X1 NO. OUTGOING MCB 16A/3P, EACH FEEDING 16A 240V INDUSTRIAL SOCKET OUTLET -X3 NO. OUTGOING MCB 32A/3P, FEEDING 32A 415V INDUSTRIAL SOCKET OUTLETS
S19		DISTRIBUTION ASSEMBLIES WITH INCOMING MCB RATING AS FEEDING BREAKER -X1 NO. OUTGOING MCB 16A/3P, EACH FEEDING 16A 240V INDUSTRIAL SOCKET OUTLET -X3 NO. OUTGOING MCB 32A/3P, FEEDING 32A 415V INDUSTRIAL SOCKET OUTLETS
S20		DISTRIBUTION ASSEMBLIES WITH INCOMING MCB RATING AS FEEDING BREAKER -X1 NO. OUTGOING MCB 16A/3P, EACH FEEDING 16A 240V INDUSTRIAL SOCKET OUTLET -X3 NO. OUTGOING MCB 32A/3P, FEEDING 32A 415V INDUSTRIAL SOCKET OUTLETS
S21		SINGLE PHASE ISOLATOR ABOVE FALSE CEILING RATING SAME AS FEEDING BREAKER
S22		THREE PHASE ISOLATOR RATING SAME AS FEEDING BREAKER UNLESS OTHER WISE SHOWN ON DRAWINGS, IP20
S23		JUNCTION BOX INSTALLED BEHIND HAND DRYER/CONTROLLED BY REMOTE 0P-5W
S24		WATER HEATER
S25		EMERGENCY STOP BUTTON
S26		VERTICAL ACCESS BOX FOR 3 COMPARTMENT TRUNKING ABOVE FALSE CEILING (SIZE:300x200mmx500mm)
S27		SUB MAIN SWITCH BOARD
S28		FINAL DISTRIBUTION BOARD
S29		UPVC CONDUIT CONCEALED IN CONCRETE OR GROUND
S30		DITTO AS ABOVE BUT FOR UPS CIRCUITS
S31		3 COMPARTMENT Q UNDER FLOOR TRUNKING WITH EARTH TRUNKING SIZE OF 75x25mm (BRANCH TRUNKING)
S32		15A 240V, 2P+E SWITCHED SOCKET OUTLET ABOVE EACH CLUSTER OF BRACKETS FOR GENERAL EXPERIMENTAL USE PROVIDED WITH 1 LIGHT AND AN EMERGENCY STOP SWITCH (REFER TO DETAILED DIAGRAM BY FURNITURE CONTRACTOR)
S33		15A 240V, 2P+E SWITCHED SOCKET OUTLET ABOVE EACH CLUSTER OF BRACKETS FOR GENERAL EXPERIMENTAL USE PROVIDED WITH 1 LIGHT AND AN EMERGENCY STOP SWITCH (REFER TO DETAILED DIAGRAM BY FURNITURE CONTRACTOR)
S34		15A 240V, 2P+E SWITCHED SOCKET OUTLET ABOVE EACH CLUSTER OF BRACKETS FOR GENERAL EXPERIMENTAL USE PROVIDED WITH 1 LIGHT AND AN EMERGENCY STOP SWITCH (REFER TO DETAILED DIAGRAM BY FURNITURE CONTRACTOR)